ABSTRACT

A multi-channel circuit (1) comprising a plurality of on-chip channels (CH1 to CH4), each of which comprises a DAC (3) for converting digital data into analogue output signals independently of each other under the control of an interface and control logic circuit (11). The analogue output signals from the DACs (3) are outputted on output terminals (7) of the respective channels (CH1 to CH4). The digital input data and control and address signals for controlling the conversion of the digital data in the DACs (3) are inputted to the interface and control logic circuit (11) through an I/O port (10). DAC registers (9) are provided in the respective channels (CH1 to CH4) for storing the digital words to be converted in the corresponding DACs (3). Analogue input terminals (20) are provided for receiving analogue input signals (20), for example, analogue signals from external systems which may be controlled by the output signals from the DACs (3). A multiplexer (15) is operable under the control of the interface and control logic circuit (11) for selectively and sequentially applying the analogue output signals from the DACs (3) and the analogue input signals from the analogue input terminals (20) to a monitoring output terminal (16) for facilitating independent monitoring of the analogue output signals from the DACs (3), and the analogue inputs on the analogue input terminals (20).